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EXAMINER	
CIRIC, LJILJANA V	

ART UNIT	PAPER NUMBER
3753	

DATE MAILED: 08/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/828,029	JEONG, IN KWON
	Examiner	Art Unit
	Ljiljana (Lil) V. Ciric	3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *none* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the reply filed on May 6, 2004.

2. Claims 1 through 34 remain in this application. All of these claims have been amended, either directly or indirectly.

Response to Arguments

3. Applicant's arguments filed on May 6, 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted, first of all, that the features upon which applicant relies are shown in each of the references. In particular, *Higgins* **does** show an integrated heat exchanger including a portion of the cooling fluid circulation loop including passageways 61 and 62, a portion of the heat transfer fluid circulation loop including passageways 118 and 119, and a heat source or thermoelectric module 51. Also see Figure 4 and the corresponding rejection below.

Also contrary to applicant's arguments, *Cowans et al.* similarly shows an integrated heat exchanger; see element 90 in Figure 6, for example, as well as the corresponding rejection below.

Applicant is also respectfully reminded that claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

Applicant's arguments thus fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments thus do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Claim Objections

4. Claims 4, 5, 17, 18, and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Each of claims 4, 17, and 26 recites that the heat source is integrated with the means for exchanging heat/heat exchanger, whereas the claim from which each of these claims depends already recites the heat source as being integrated with the means for exchanging heat/heat exchanger.

Claim Rejections 35 U.S.C. § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 through 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Based on applicant's arguments relating thereto as presented in the reply filed on May 6, 2004, the use of the limitation "temperature control logic" is intended to refer to "hardware and/or software". Nevertheless, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description

must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). Based on the aforementioned arguments by applicant, the term "temperature control logic" in each of claims 1, 14, 25, 31, and 33 is used by the claims to mean "temperature control hardware and/or software", while the accepted meaning is "temperature control software" The term is indefinite because the specification does not clearly redefine the term. The examiner still recommends replacing "a temperature control logic" with "a controller programmed with a temperature control logic" or similar, as appropriate, in each of base claims 1, 14, 25, 31, and 33.

With regard to each of claims 10, 23, and 29, for example, it is still not clear which particular structure if any corresponds to the limitations following "wherein" in the claim nor what exactly is encompassed by these limitations, thus rendering these claims indefinite with regard to the scope of protection sought.

There appears to be insufficient antecedent basis for the limitation "the heat source" [claim 31, line 21; claim 33, line 27].

Furthermore, it is not clear whether the limitation "a heat source" [claim 32, line 2; claim 34, line 2] is intended to refer back to "the heat source" [claim 31, line 21; claim 33, line 27] or whether the limitation "a heat source" [claim 32, line 2; claim 34, line 2] refers to another, additional, heat source, thus further rendering indefinite the metes and bounds of protection sought by the claims.

Claims 1 through 34 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the

elements. See MPEP § 2172.01. The omitted elements are: a temperature sensor and/or other temperature sensing means necessary for providing temperature feedback information as recited in each of base claims 1, 14, 25, 31, and 33.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. As best can be understood in view of the indefiniteness of the claims, claims 14 through 23, 25 through 27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by *Higgins*.

Higgins discloses the invention essentially as claimed, including, for example: a remote temperature control module 16; primary circulatory system 38 and secondary circulatory system 138 which read on the respective circulation loops as claimed; a thermal electric module 51 which reads on the means for exchanging heat as claimed; and, a controller 312 which reads broadly on the control logic as claimed. Temperature control module 16 as shown in Figure 4 is readable on the integrated heat exchanger which includes a portion of the cooling fluid circulation loop or the primary circulatory system 38 [see column 9, lines 32-37], a portion of the heat transfer fluid circulation loop 138 [see column 6, lines 10-21], and a heat source or thermal electric module 51 [also see column 6, lines 10-21].

The reference thus reads on the claims.

9. As best can be understood in view of the indefiniteness of the claims, and alternately for claims 14 through 23, 25 through 27, and 29, claims 1 through 34 are rejected under 35 U.S.C. 102(e) as being anticipated by *Cowans et al.*

Cowans et al. [especially Figures 1 and 6] discloses the invention essentially as claimed, including, for example: evaporator or heat exchanger 60 or 70 which reads on the means for exchanging heat as claimed; a cooling fluid circulation loop and a heat transfer fluid circulation loop through evaporator or heat exchanger 60 or 70 or 98; a cooling fluid control valve 42; a heat source or heater 76; process component or tool or temperature controlled device 30 or 38; and a controller 26 which reads broadly on the control logic as claimed. The structure corresponding to

hannel 90 as shown in Figure 6 corresponds to an "integrated heat exchanger" as recited in the claims of the instant invention, at least as broadly interpreted as required, wherein this "integrated heat exchanger" includes includes a portion of the cooling fluid circulation loop (i.e., the refrigerant loop flowing through the refrigeration unit 10'), a portion of the heat transfer fluid circulation loop (i.e., the fluid flowing through the tool, and a heat source or heater 76, all as shown in Figure 6.

The reference thus reads on the claims.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1 through 10, 14 through 23, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 through 3, 6 through 14, 16 through 21, and 23 through 25 copending Application No. 09/780,713. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between the claims in the two applications is that the claims of the copending application do not recite the cooling unit as being a refrigeration unit that provides compressed refrigerant. This distinction, however, is an obvious one because it is

notoriously well-known in the art of semiconductor processing apparatus to use refrigerants and refrigeration units in order to maintain the processing temperatures sufficiently low. Alternately, it is obvious to omit an element and its function.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925. While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel, can be reached on (703) 308-1272.

The NEW central official fax phone number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

August 5, 2004

LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3753